

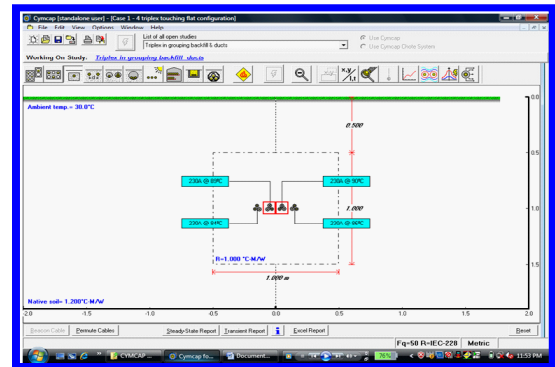


R&D Fund Project

The Study of Different Cable Laying Design, the Best Practices and Ampacity Calculation

Ranking	Ampacity at depth of 0.75m	
1	Backfill	386
2	Direct buried	370
3	GI pipe	353
4	PVC pipe	341
5	Corrugated pipe	340
6	HDPE pipe	338

Ampacity Simulation Results



Cable Ampacity Calculation software

Project Overview

One of the most important needs in power cable engineering and operation is to have information about the maximum current carrying capacity or ampacity which a cable can accommodate through out its life without risking deterioration or damage. In this project, the cable ampacity of various cable laying designs is calculated using advanced power cable ampacity software.

Deliverables

- Study, review and calculation of the cable ampacity and thermal effects of the cable laying design for single core cables in PMUs and PPU's; and cable laying design specifically in Putrajaya.
- Gap analysis of TNBD's present laying design with respect to industry best practices along with improvement opportunities. Recommended Guidelines will also be included.

- Ampacity and thermal analysis of different cable laying design for Triplex Cable in HDPE pipe at Putrajaya considering all kinds of derating factors.
- Ampacity and thermal analysis of different cable laying design considering all kinds of derating factors, sheath bonding arrangement analysis, & short circuit current analysis.

Benefits

- The technical reports on the study & review shall be used as guidelines for TNBD Planning Department, when planning new feeders and main intakes (PMU & PPU), and
- Enables load transfer during operational and maintenance for optimum usage of the UG cable without overheating the cable.